

REGIONAL ROADWAY FLOODING SENSORS

HRPDC

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Drivers don't know if a road is flooded. Alternate routes might be available and drivers could save time if they knew the area was flooded before they got there.

SOLUTION


Install sensors that determine if a road is flooded and send information to WAZE in real-time.

Provide text and email alerts based on sensor data.




Waze - GPS, Maps, Traffic Alerts & Live Navigation

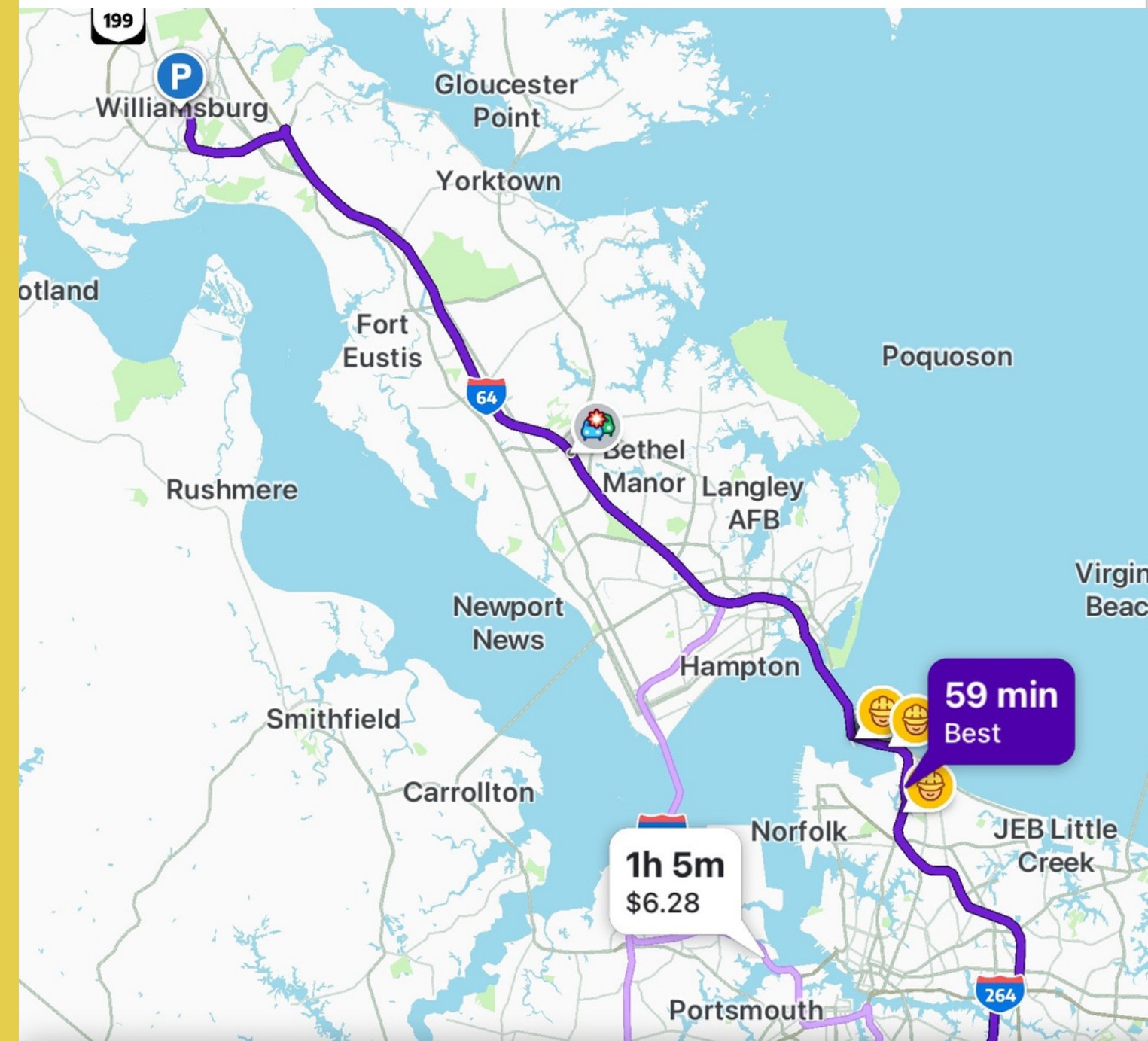
Waze Maps & Navigation ★★★★★ 8,085,389

 Everyone

Contains Ads

 Add to Wishlist

Install



59 min

I-64 W Norfolk

Best route, typical traffic

53 miles



BUDGET

TOTAL BUDGET:
\$220,000

Federal - OLDCC grant
\$196,800

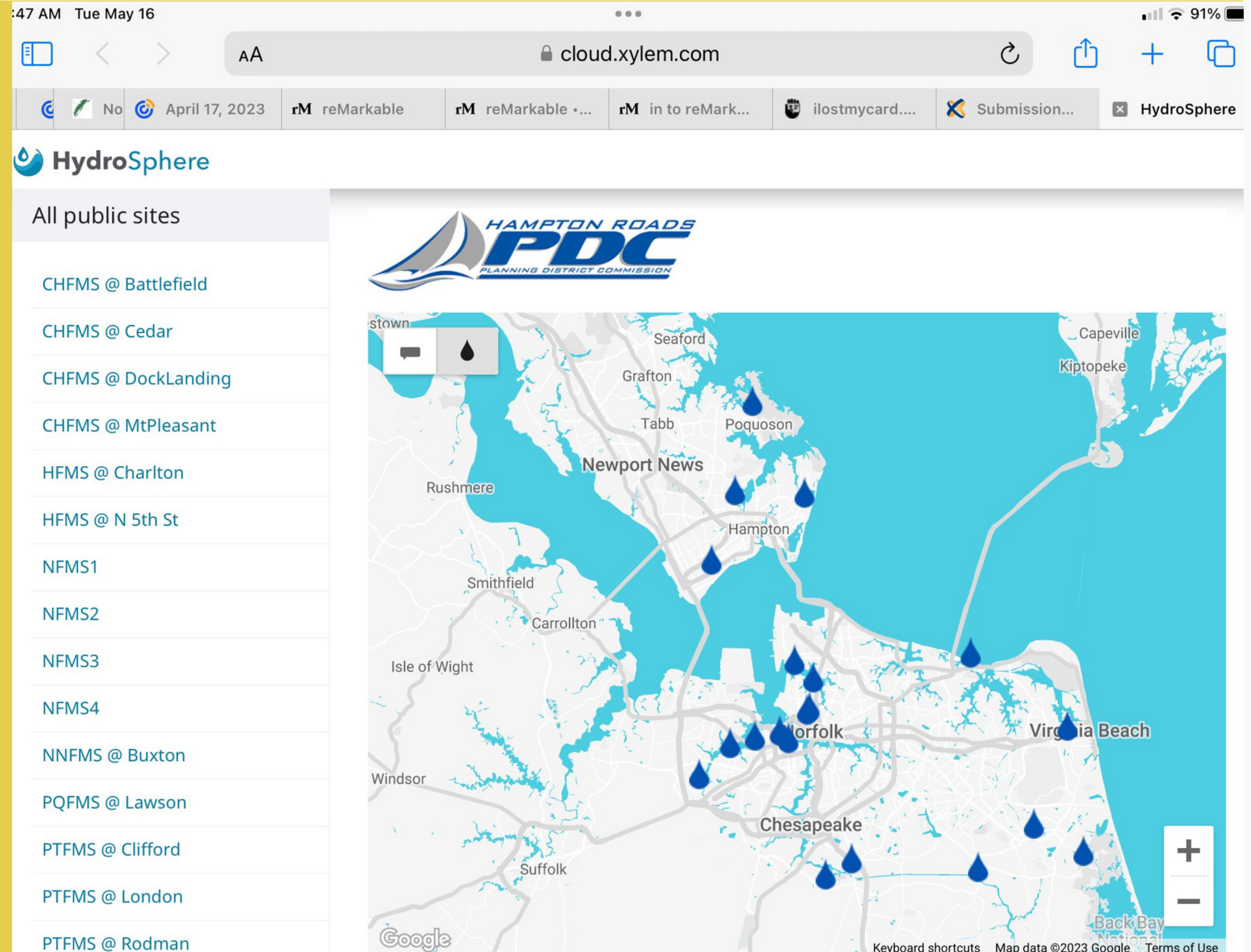
Local - Coastal Resiliency
\$23,200

Federal support based on
JLUS report and military's
interest in awareness of
roadway flooding.

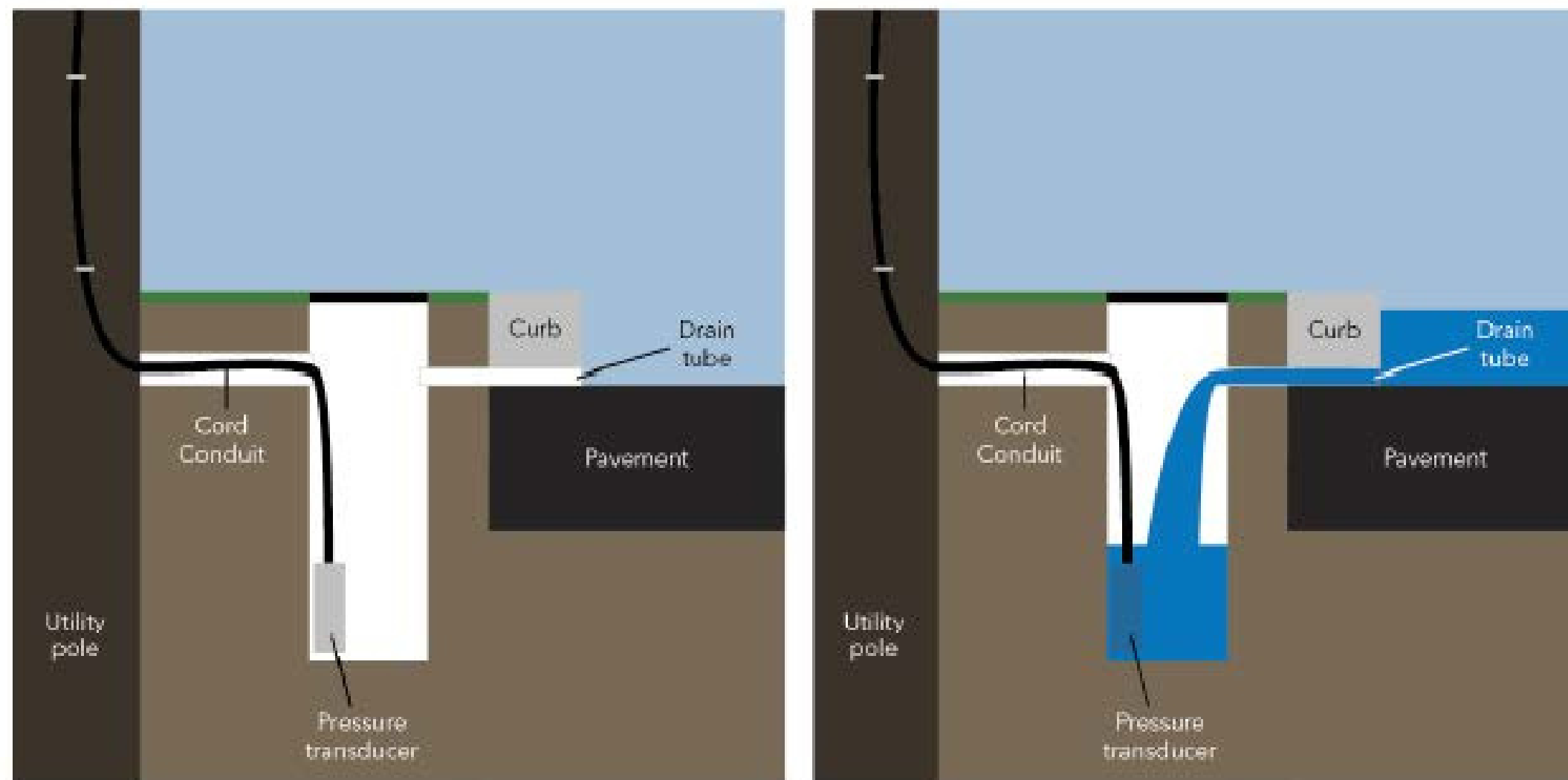
PILOT PROJECT

Install 20 sensors to develop network backbone and vet concept.

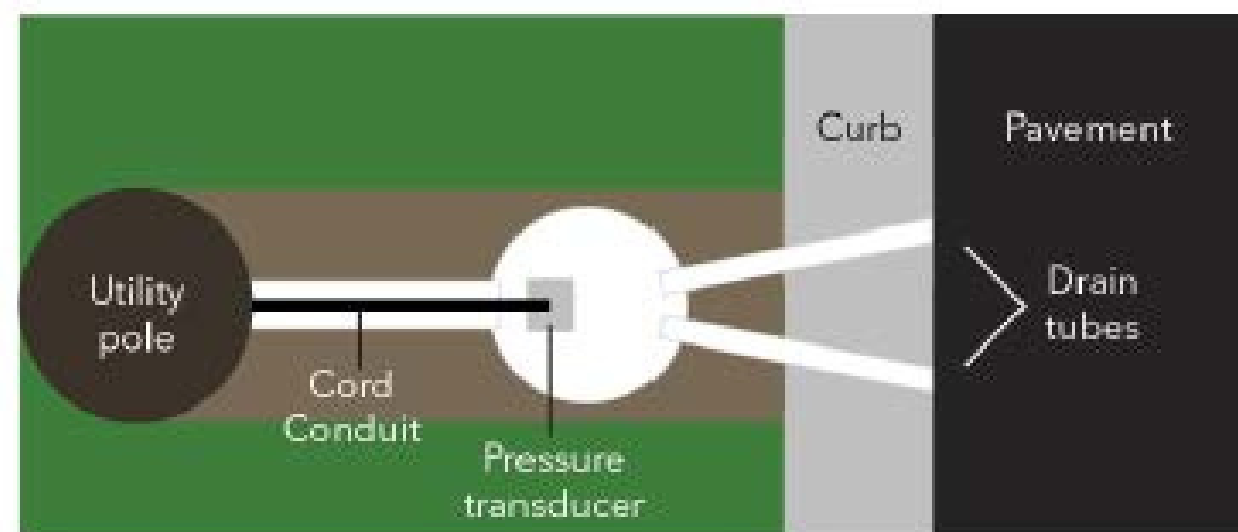
All 20 sensors have been installed and are operating.



Side View



Top Down View



INSTALLATION

Most sites have pressure transducer in a well. Water on the road flows into the well from hole cut through the curb.

Several types of installation - part of the pilot project objectives.

HAMPTON



FRONT



BACK



PORTSMOUTH



POQUOSON



NEWPORT NEWS



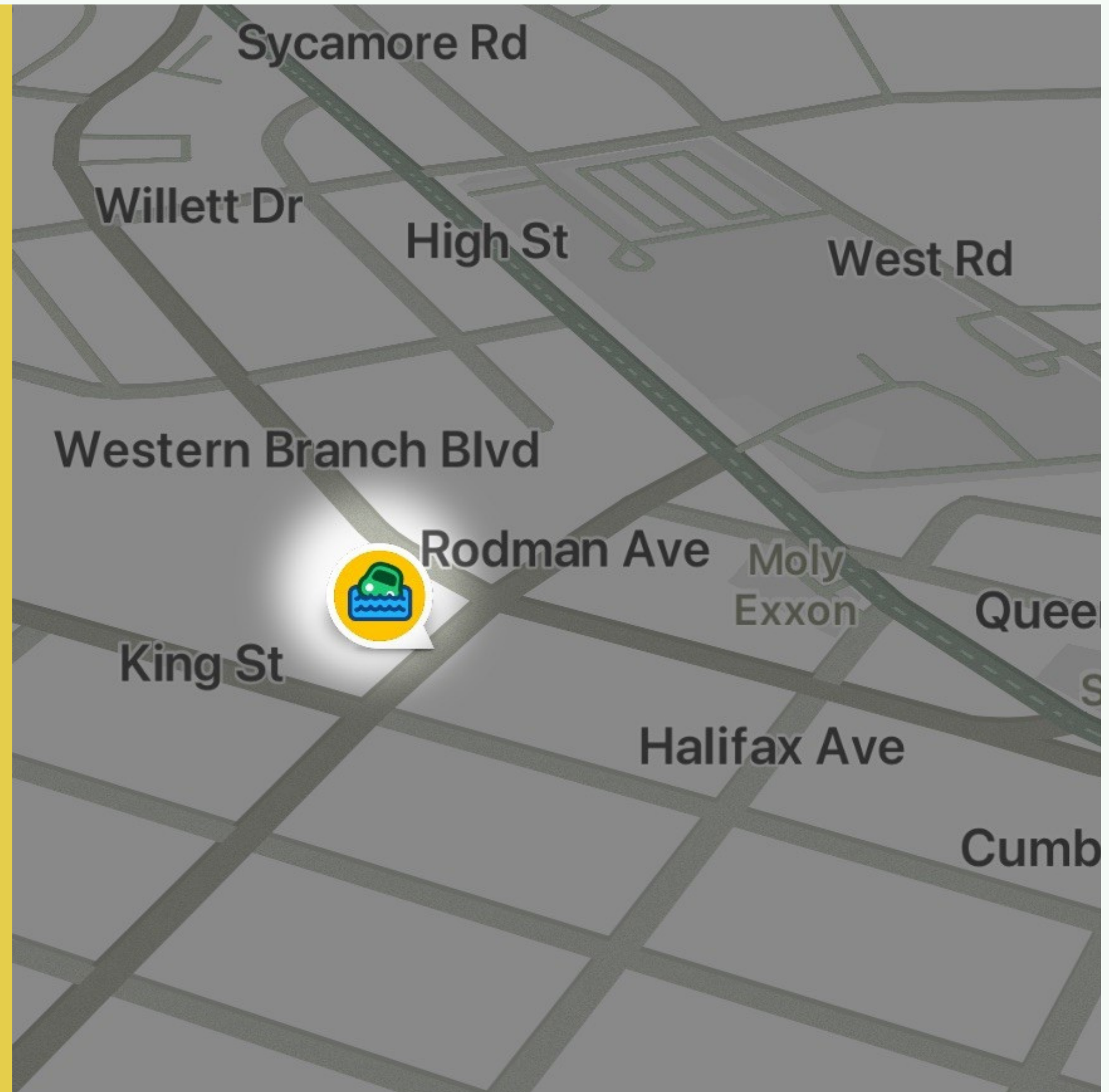
CHESAPEAKE

WAZE ALERTS

Sensors collect measurements every 5 minutes.

If water level is 2 inches above road elevation, a Flood Alert is sent to WAZE.

An icon appears on the map and drivers will be routed around the Flood Alert location.



Battlefield Yellow Alert

☐ Alarm Disabled

CHFMSBattlefield

Site id

CHFMS @

Battlefield

Level

Sensor

greater

than

(samples)

Condition

0

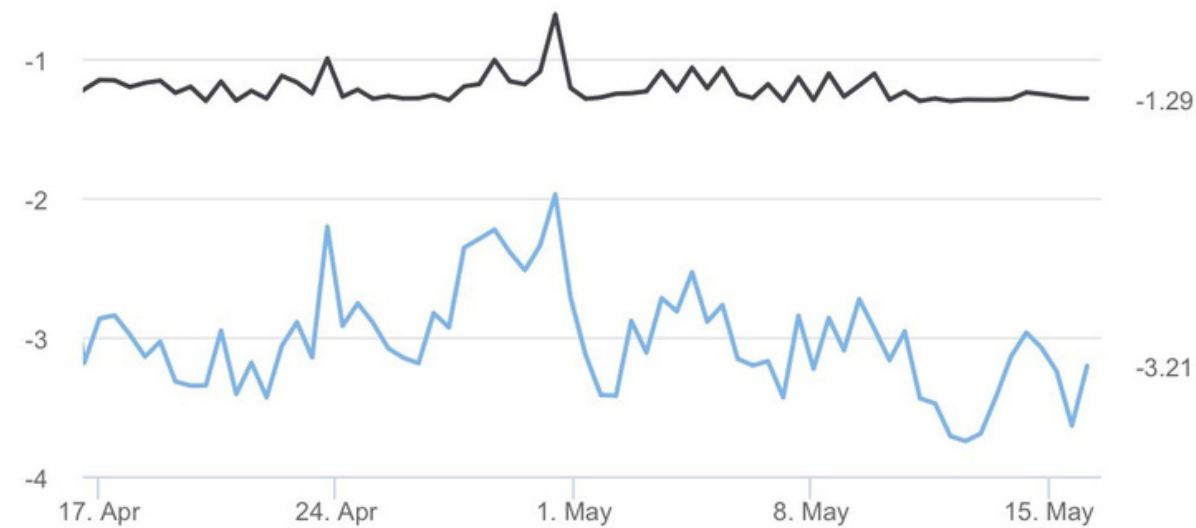
Set point

3

of Samples



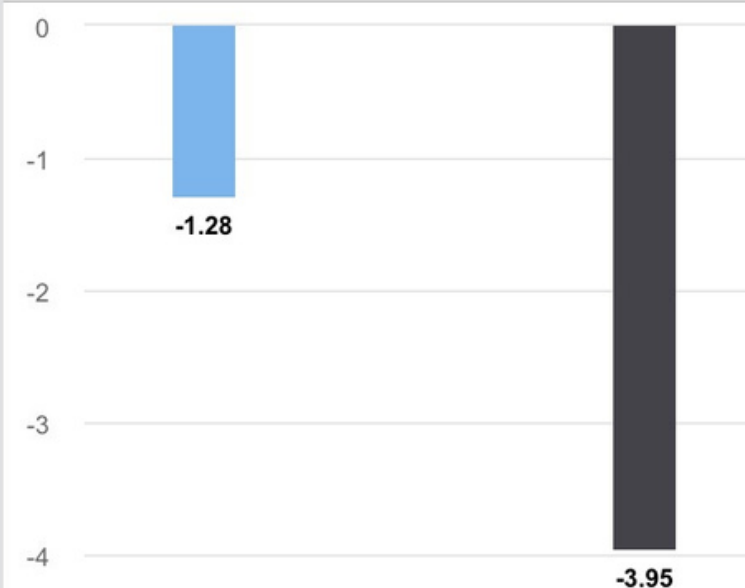
HFMSCharlton...
HFMSN5thSt: ...



Current and 30-day Average ...

DataStream Name	UoM	latestValue	max-30d	avg-15m
HFMSCharlton: HFMS _ Charlton Level	none	-3.95	-0.94	
HFMSN5thSt: HFMS _ N 5th St Level	none	-1.28	0.38	

Hampton Current Bar Graph...

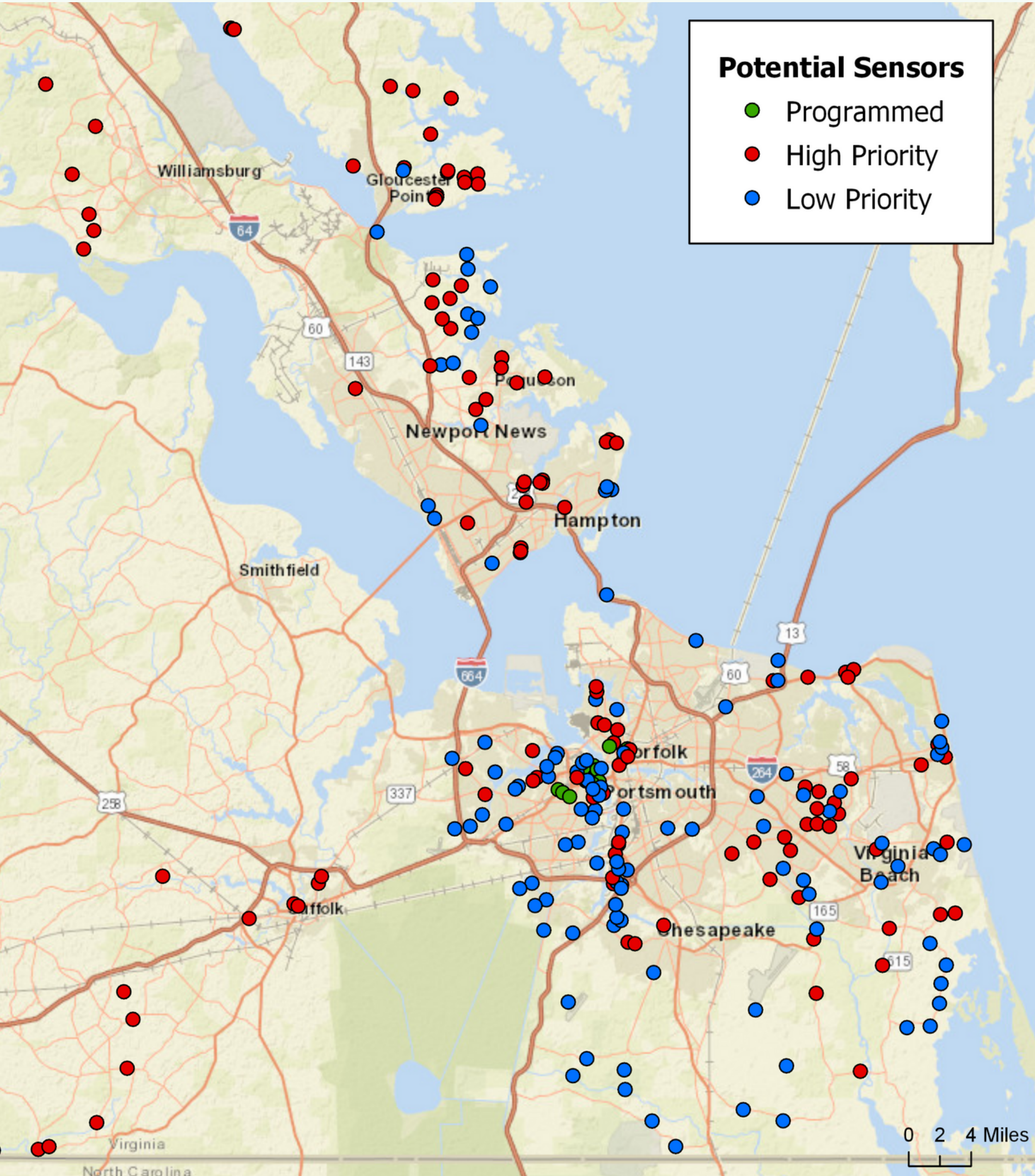


DATA PORTAL

Portal viewer is public and shows real-time water levels compared to road elevation.

Individual portal accounts have additional features.

- Send email or text alerts for specific sensor to public/staff.
- Setup dashboards.
- Download historical data.



POTENTIAL NETWORK

Almost 200 sites were nominated by local government staff.

Need to evaluate the pilot before we consider expansion.

NEXT STEPS

Set up accounts and provide instructions for users.

Assess need to add sensors to the network.

Consider additional types of sensors that could be hosted by portal.

Promote availability of data.

